

Comparisons of Job Characteristics

Focus Occupation: **Microbiologists (19-1022)**

Associated Occupation: **Forensic Science Technicians (19-4092)**

[Compare Knowledge](#)

[Compare Skills](#)

[Compare Abilities](#)

[Compare Detailed Work Activities](#)

[Compare Tools and Technologies](#)

<<	Focus occupation element is much lower
<	Focus occupation element is lower
0	Focus occupation element is at a similar level
>	Focus occupation element is at a higher level
>>	Focus occupation element is at a much higher level

Knowledge

Similarity of Focus Occupation to Associated Occupation: 48

Focus Occupation: Microbiologists (19-1022)

Associated Occupation: Forensic Science Technicians (19-4092)

Associated Occupation's Key Knowledge Elements	Average Rating, All Occupations	Associated Occupation's Rating	Focus Occupation's Rating		Evaluation of Focus Occupation
Chemistry	4.8	13.1	15.2	>	Current knowledge level is likely sufficient
Clerical	7.3	12.9	7.8	<<	Extensive education and/or training may be required
Law and Government	5.9	12.9	6.1	<<	Extensive education and/or training may be required
Public Safety and Security	6.9	12.0	6.6	<<	Extensive education and/or training may be required
Biology	3.7	9.3	24.1	>>	Current knowledge level is likely more than sufficient
Medicine and Dentistry	3.7	6.0	10.7	>>	Current knowledge level is likely more than sufficient
Geography	3.9	5.7	4.0	<<	Extensive education and/or training may be required

The maximum possible rating is 25.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O*NET (Occupation Information Network) data.

Skills

Similarity of Focus Occupation to Associated Occupation: 85

Focus Occupation: Microbiologists (19-1022)

Associated Occupation: Forensic Science Technicians (19-4092)

Associated Occupation's Key Skills Elements	Average Rating, All Occupations	Associated Occupation's Rating	Focus Occupation's Rating		Evaluation of Focus Occupation
Critical Thinking	10.8	14.1	15.0	0	Current skill level may be sufficient
Speaking	10.8	13.6	12.3	<	A higher skill level may be required
Writing	9.2	13.5	14.8	0	Current skill level may be sufficient
Complex Problem Solving	9.1	12.6	11.5	0	Current skill level may be sufficient
Active Learning	8.7	11.2	14.7	>>	Skill level is likely more than sufficient

Instructing	7.8	10.6	10.6	0	Current skill level may be sufficient
Science	4.5	9.8	17.0	>>	Skill level is likely more than sufficient

The maximum possible rating is 25.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O*NET (Occupation Information Network) data.

Abilities		Similarity of Focus Occupation to Associated Occupation: 93			
Focus Occupation: Microbiologists (19-1022)					
Associated Occupation: Forensic Science Technicians (19-4092)					
Associated Occupation's Key Abilities Elements	Average Rating, All Occupations	Associated Occupation's Rating	Focus Occupation's Rating	Evaluation of Focus Occupation	
Flexibility of Closure	7.8	16.0	13.6	<	Some improvement in abilities may be required
Deductive Reasoning	10.6	15.1	15.7	0	Current ability level may be sufficient
Near Vision	11.1	15.1	15.0	0	Current ability level may be sufficient
Problem Sensitivity	11.1	14.4	16.1	>	Current ability level is likely sufficient
Inductive Reasoning	10.2	14.3	18.0	>>	Current ability level is likely more than sufficient
Information Ordering	9.9	12.9	13.9	0	Current ability level may be sufficient
Far Vision	7.8	12.5	9.5	<<	Extensive improvement in abilities may be required
Category Flexibility	9.0	12.0	16.0	>>	Current ability level is likely more than sufficient
Speed of Closure	5.9	11.2	9.5	<	Some improvement in abilities may be required
Perceptual Speed	7.4	11.1	10.5	0	Current ability level may be sufficient

The maximum possible rating is 25.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O*NET (Occupation Information Network) data.

Activities that Both Occupations Have in Common		Similarity of Focus Occupation to Associated Occupation: 86
Focus Occupation: Microbiologists (19-1022) Associated Occupation: Forensic Science Technicians (19-4092)		
Work Activities	Exclusivity of Activity	
Adhere to safety procedures	12	
Advise governmental or industrial personnel	28	
Analyze biological research, test, or analysis data	70	
Analyze scientific research data or investigative findings	27	
Classify plants, animals, or other natural phenomena	69	
Collect scientific or technical data	30	
Communicate technical information	4	
Conduct analyses or tests of organic compounds	71	
Conduct field research or investigative studies	52	

Conduct laboratory research or experiments	57
Conduct standardized qualitative laboratory analyses	62
Conduct standardized quantitative laboratory analyses	62
Confer with engineering, technical or manufacturing personnel	25
Confer with scientists	54
Develop or maintain databases	30
Develop tables depicting data	33
Examine biological or other material specimens under microscope	73
Explain complex mathematical information	30
Follow infectious materials procedures	52
Follow microbiology procedures	74
Maintain records, reports, or files	5
Make decisions	24
Prepare reports	8
Prepare sample for laboratory testing, analysis, or microscopy	74
Prepare technical reports or related documentation	22
Record test results, test procedures, or inspection data	48
Understand properties or composition of drugs	64
Use biological research techniques	68
Use biological testing instruments	73
Use chemical testing or analysis procedures	54
Use computers to enter, access or retrieve data	3
Use hazardous materials information	35
Use health or sanitation standards	62
Use knowledge of investigation techniques	16
Use laboratory equipment	60
Use mathematical or statistical methods to identify or analyze problems	30
Use microscope	71
Use quantitative research methods	35
Use relational database software	26
Use scientific research methodology	21
Use spreadsheet software	18
Use word processing or desktop publishing software	17

Not all positions in these occupations will necessarily perform all of the listed activities. The exclusivity rating is an indication of how unique the activity is amongst all occupations. The maximum rating is 100. High scores indicate that only a small number of occupations engage in that activity.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O*NET (Occupation Information Network) data.

Tools and Technologies that Both Occupations Have in Common

Similarity of Focus
Occupation to Associated
Occupation: 60

Focus Occupation: Microbiologists (19-1022)
Associated Occupation: Forensic Science Technicians (19-4092)

Tools and Technologies	Exclusivity
Autoclave and sterilizer equipment and accessories	12
Cameras	2
Computers	1

Content authoring and editing software	1
Data management and query software	1
Indicating and recording instruments	2
Industry specific software	1
Information exchange software	1
Laboratory centrifuges and accessories	13
Laboratory heating and drying equipment	13
Laboratory microscope slides and supplies	20
Laboratory mixing and stirring and shaking equipment and supplies	19
Laboratory washing and cleaning equipment	35
Lamps	19
Light and wave generating and measuring equipment	4
Network applications software	1
Power generators	16
Respiratory protection	6
Safety apparel	4
Safety footwear	21
Specimen collection and transport containers and supplies	14
Spectroscopic equipment	10
Temperature and heat measuring instruments	6
Viewing and observing instruments and accessories	4
Vision protection and accessories	3
Weight measuring instruments	7

Not all positions in these occupations will necessarily use all of the listed tools and technologies. The exclusivity rating is an indication of how unique the tool or technology is amongst all occupations. The maximum rating is 100. High scores indicate that only a small number of occupations use that tool or technology.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O*NET (Occupation Information Network) data.